

REMARKS

A complete listing of all the claims in the application is shown above, showing the status of each claim. Applicant appreciates the thoroughness with which the Examiner has examined the above-identified application. The instant application's status is a non-final rejection after withdrawal of a final rejection. Reconsideration is requested in view of the amendments to the claims and the remarks below.

No new matter has been added as a result of the claim amendment.

Current Rejection

The Examiner withdrew the previous final rejection of claims 1-9 and 17-25 when applicant cancelled such claims and accepted the allowance of claims 10-16. The Examiner has now withdrawn the allowance of claims 10-16 and rejected claims 10-16 on the grounds discussed hereinafter. The Examiner's grounds for rejection are set forth at pages 2-4 of the Official Action, dated mailed March 22, 2005, said pages being incorporated herein by reference thereto.

The first grounds for rejection are under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Koslow (US 6,015,608) and the Examiner states as follows:

Koslow is directed to a liquid absorbent pad with anti-gel block laminate (Title).

Koslow teaches a liquid absorbent pad as seen in Figure 1 comprising an outer layer 10 of a liquid impervious material as required by claim, such as a thin plastic film or membrane, having an outer surface and inner surface 12. Mounted on the inner surface 12 of the outer layer 10 are a plurality of laminate segments, such as strips 14 (a-c), separated from one another by spaces 22 creating the Applicant's "channels". Each of the strips includes a bottom layer 16 of tissue, an upper layer 18 of tissue, and an intermediate layer 20 of super-absorbent polymer particles bonded to the bottom and upper tissue layers by thermoplastic binder particles, creating the "bonded mixture". The "bonded mixture" has

admixture of super-absorbent polymer particles and much smaller particles of thermoplastic binder (column 1, lines 30 - 35). The super-absorbent polymer particles in the intermediate layer "channels" absorb the liquid. Mounted on the laminate strips 14 is a liquid acquisition layer 24. The acquisition layer 24 may be of any material currently used for this purpose and known to those skilled in the art such as an air laid medium. The outer layer 10 in combination with the bottom layer 16 of tissue segments are equated to Applicant's "first substrate". The liquid acquisition layer in combination with the upper layer 18 of tissue are equated to Applicant's "second substrate". An optional liquid-permeable skin-contacting spun-bonded medium 26 is provided, equated to Applicant's "liquid permeable acquisition layer" (column 2, lines 29 - 65). The composite will absorb liquid when used as a diaper or in feminine hygiene products (column 1, lines 5 - 7), which is placed close to the body, thus adjacent to the liquid source.

It has been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not amount to the mere claiming of use of a particular structure. *Ex parte Pfeiffer*, 135 USPQ 31 (1961). The limitations that describes the physical structure of the composite is not given patentable weight since it does not affect the method in a manipulative sense. It is suggested to amend the claim language to require "providing" a first substrate and a bonded mixture.

The Examiner is correct in the stating that the Koslow patent ('608) discloses the use of a super-absorbent polymer, but that is where the comparison to the Koslow patent (Koslow '608) and the invention claimed in claims 10-16 must end. Koslow '608 is to be distinguished from the instant invention by applicant's completely novel mechanism which is employed for the absorption of liquid. Koslow '608 does not disclose the formation of a three-dimensional array of elongated channels when the super-absorbent polymer-containing composite is contacted with liquid. The Examiner's reference to "channels" being disclosed in Koslow '608 is misplaced, because the channels are not in the tree-dimensional array of elongated channels formed in the composite of applicant's invention when contacted with liquid. Claim 10 has been amended to clarify this critical distinction and how these structures defines the method of absorption and affects it in a manipulative manner. Koslow '608 does not disclose any physical change in the super-absorbent polymer after it contacts liquid. The novel absorption method of the three-dimensional array after contact with liquid and the method of absorption using this three-

dimensional array of elongated channels is the invention and that is not taught or obvious over Koslow '608. The three-dimensional array of elongated channels (three-dimensional array of cavities, hollow tubes, folds and elongated channels; see specification at page 2, lines 6-7), and the method of their creation and the method of their absorption of liquid is not taught or obvious over Koslow '608.

Claims 10 - 16 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Dutkiewicz (US 6,562,742), the Examiner stating:

Dutkiewicz is directed to a high-performance absorbent structure (Title).

Dutkiewicz teaches an absorbent material which can comprise three layers wherein at least one layer comprises SAP particles placed in narrow lanes along the absorbent core (columns 3 and 4). See Figures 1a - 1d. Dutkiewicz teaches that the discrete placement of SAP particles allows for better containment of the particles, facilitates flow of liquid in the z- direction, because of the presence of areas with little or no SAP, and allows for easier flow and wicking of the fluid along the length of the core (column 4, lines 1 - 12). Dutkiewicz notes that the absorbent structure has a substantially dry liquid-accepting surface after receiving a quantity of liquid (Abstract).

It has been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not amount to the mere claiming of use of a particular structure. *Ex parte Pfeiffer*, 135 USPQ 31 (1961). The limitations that describes the physical structure of the composite is not given patentable weight since it does not affect the method in a manipulative sense. It is suggested to amend the claim language to require "providing" a first substrate and a bonded mixture.

The Examiner is again correct in the stating that the Dutkiewicz patent discloses the use of a super-absorbent polymer, but that is where the disclosure of the Dutkiewicz patent stops. Dutkiewicz fails to disclose a method similar to the instant invention. The Examiner's reference to "narrow lanes" is to a substrate feature external to the composite formed of the binder and super-absorbent polymer (see: col. 3, lines 65 and 67, wherein it states, "For example, with references to FIGS. 1c and 1d the SAP particles may be placed in narrow

lanes 20 along the absorbent core.”). Accordingly, Dutkiewicz is to be distinguished from the instant invention by applicant’s completely novel manipulative mechanism employed for the absorption of liquid. Dutkiewicz does not disclose the formation of a three-dimensional array of elongated channels when the super-absorbent polymer composite is contacted with liquid. Dutkiewicz does not disclose any physical change in the super absorbent polymer composite after it contacts liquid. The novel absorption method of the three dimensional array after contact with liquid is the invention and such is not taught or obvious in view of or taught by Dutkiewicz. The three-dimensional array of elongated channels (three-dimensional array of cavities, hollow tubes, folds and elongated channels; see page 2, lines 6-7 of the specification), the method of their creation and the method of absorption of liquid by the three-dimensional array of channels in the composite is not taught or obvious over Dutkiewicz. The general description of SAPs at column 5, line 34 to column 5, line 67 fails to disclose any SAP with any liquid absorption method involving formation of a three-dimensional array of elongated channels when contacted with a liquid. It is only applicant which teaches a method for forming such a structure and using such structure for the improved absorption of liquids.

As noted above , claim 10 has been amended to clarify the unique method of the instant invention of forming a super-absorbent polymer (“SAP”) composite with a three-dimensional array of channels and then using such three-dimensional array of channels to provide superior liquid absorbent composites for absorption of liquids (see: page 2, last 6 lines). Further, at page 6, lines 1-5 and page 6, lines 17-21, the exceptional improved speed of liquid absorption is discussed. The Examiner referred to the “channels” and “lanes” disclosed in Koslow ‘608 and Dutkiewicz, but such features are taught to be external substrate features upon which the instant composite may be placed. Claims 10-16 clearly claim the three-dimensional array of channels as a feature contained in the composite.

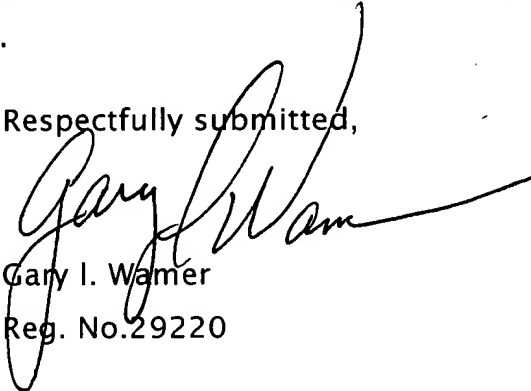
It is respectfully submitted that the instant invention demonstrates a new method for absorption of liquid by use of SAP composites after forming a three-dimensional array of elongated channels. The claimed method of claims 10-16

has not been disclosed or taught in the prior art cited by the Examiner. Further, the comparative examples of the instant invention demonstrate that conventional prior art SAPs do not form three-dimensional arrays of elongated channels when contacted with a liquid and the novel method of absorbing liquids therewith.

REQUEST RECONSIDERATION

In view of the foregoing, , it is respectfully submitted that the claims are properly allowable and should be allowed to issue. The undersigned can be reached at 203-799-9000, ext. 277.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date indicated below as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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